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10/550,289	09/22/2005	Toshihiro Fujiki	274767US6PCT	9544

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EXAMINER

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ART UNIT	PAPER NUMBER
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2627

NOTIFICATION DATE	DELIVERY MODE
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12/21/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/550,289	Applicant(s) FUJIKI, TOSHIHIRO	
	Examiner LaTanya Bibbins	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3 and 5-18 is/are allowed.
- 6) ☒ Claim(s) 19-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In the remarks filed on June 15, 2009, Applicant amended claims 1, 5, 6, 13, 14, 18, 19 and 27, cancelled claims 2, 4 and 28-35, and submitted arguments for allowability of pending claims 1, 3 and 5-27.

Response to Arguments

2. Applicant's arguments, filed June 15, 2009 and August 13, 2009, with respect to claims 1, 3 and 5-18 have been fully considered and are persuasive. The rejections of claims 1, 3 and 5-18 have been withdrawn.

3. Applicant's arguments filed June 15, 2009 and August 13, 2009, with respect to claims 19-27 have been fully considered but they are not persuasive.

Applicant amended claims independent claims 19 and 27 to include the allowable subject matter regarding the optical disc recording apparatus, however, claims 19 and 27 are drawn to an optical disc and with the exception of the preamble, fail to recite structural features of the optical disc. The newly added limitations do not result in any change in the physical structure of the optical disc but rather recite limitations of the optical disc recording apparatus and its intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)). See also MPEP 2114.

Also note that a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 19-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claims 19 and 27 recite the limitation "the optical disc recording apparatus."

There is insufficient antecedent basis for this limitation in the claim.

Dependent claims 20-26 do not resolve the 35 U.S.C. 112 second paragraph issues of independent claim 19 recited above and are therefore rejected as incorporating the deficiencies of a claim upon which they depend.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 19-24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US Patent Number 6,331,969 B1), herein Kobayashi '969, in view of Miyamori et al. (US Patent Number 6,025,946).

Claims 19 and 27 are drawn to an optical disc and with the exception of the preamble, fail to recite structural features of the optical disc. The recited limitations do not result in any change in the physical structure of the optical disc but rather recite limitations of the optical disc recording apparatus and its intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)). See also MPEP 2114.

Also note that a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Since the recitation of the optical disc occurs in the preamble, and the recitations of the optical disc recording apparatus do not further limit the optical disc and are

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directed toward intended use, neither the recitations regarding the optical disc nor the recitations regarding the optical disc recording apparatus have been given patentable weight.

Regarding claim 19, Kobayashi '969 discloses an optical disc having pits and lands or marks and spaces having lengths which are represented by integral multiples of a predetermined basic length, successively formed to record main information on said optical disc, wherein a sequence of data based on auxiliary information is modulated by a signal represented by a combination of a sequence of pseudo-random numbers (see Figures 1 and 3, the discussion in the abstract and the discussion in column 4 lines 8-24 regarding the disk identifying code SC1), and recorded traces of said pits or said marks are changed depending on the modulated sequence of data, thereby recording said auxiliary information on said optical disc (see Figure 6B, Figures 10A-10D, the abstract, and the discussion in column 4 lines 8-24 regarding the disk identifying code SC1)..

Kobayashi '969 fails to disclose that the sequence of data based on auxiliary information is also modulated with a predetermined periodic signal. Miyamori, however, discloses a modulation circuit (element 16 of Figure 5 and Figure 11) that modulates a sequence of data based on auxiliary information with a signal represented by a combination of a sequence of pseudo-random numbers and a predetermined periodic signal (see Figure 11 element 33 and the discussion in column 16 lines 1 to 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the modulating scheme disclosed by Miyamori with the teachings of Kobayashi '969. One of ordinary skill in the art at the

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time the invention was made would have been motivated to combine the teachings in order to reduce the regularity of the data (as suggested by Miyamori in column 16 lines 53-59).

Regarding claim 20, Kobayashi '969 further discloses wherein said recorded traces of said pits or said marks which have lengths equal to or greater than a predetermined length are changed by changing a width of said pits or said marks at a time which is spaced a predetermined interval from a time corresponding to an edge of said pits or said marks (Figure 6B, Figures 10C and 10D, the abstract and the discussion in column 13 lines 7-15).

Regarding claim 21, Kobayashi '969 further discloses wherein said recorded traces of said pits or said marks are changed at a position corresponding to a period extending substantially equally over a time corresponding to the center of said pits or said marks (see Figure 6B, and Figures 10A-10D).

Regarding claim 22, Kobayashi '969 further discloses wherein the width of said pits or said marks is changed depending on the modulated sequence of data by at most 10% of an average width of said pits or said marks (column 5 lines 62-64 and column 10 lines 24-40).

Regarding claim 23, Kobayashi '969 further discloses wherein the sequence of data based on said auxiliary information comprises a sequence of identification data for identifying said optical disc (see the abstract and the discussion in column 4 lines 8-24 regarding the disk identifying code SC1).

Regarding claim 24, Kobayashi '969 further discloses wherein said main information is encrypted and recorded on said optical disc, and said sequence of data based on said auxiliary information comprises a sequence of data required to decrypt the encrypted main information (see the abstract and the discussion in column 4 lines 8-45 regarding the disk identifying code SC1 and the discussion in column 13 lines 30-41).

8. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US Patent Number 6,331,969 B1), herein Kobayashi '969, and Miyamori et al. (US Patent Number 6,025,946), as applied to claim 19 above, and further in view of Richter et al. (US PGPub Number 2006/0072396 A1).

Regarding claim 25, the combination of Kobayashi '969 and Miyamori disclose the optical disc according to claim 19 but fail to disclose wherein said pits or said marks have a position displaced in a radial direction of said optical disc. Richter, however, discloses wherein said pits or said marks have a position displaced in a radial direction of said optical disc depending on the sequence of data based on said auxiliary information which is modulated by the signal represented by the combination of the sequence of pseudo-random numbers and the predetermined periodic signal (see Figures 1 and 2 and the discussion in paragraphs [0003]-[0007]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Richter with that of Kobayashi '969 and Miyamori. One of ordinary skill in the art at the time the invention was made

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would have been motivated to combine the teachings in order to provide “a copy protection mechanism, since it will be difficult to copy the pits to another recording medium” (as suggested by Richter in paragraph [0005]).

9. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US Patent Number 6,331,969 B1), herein Kobayashi ‘969, and Miyamori et al. (US Patent Number 6,025,946), as applied to claim 19 above, and further in view of Kobayashi (US Patent 6,219,322 B1) herein Kobayashi ‘322.

Regarding claim 26, the combination of Kobayashi ‘969 and Miyamori disclose the optical disc according to claim 19 but fail to disclose wherein said pits or said marks have a length displaced depending on the sequence of data based on said auxiliary information. Kobayashi ‘322, however, discloses wherein said pits or said marks have a length displaced depending on the sequence of data based on said auxiliary information which is modulated by the signal represented by the combination of the sequence of pseudo-random numbers and the predetermined periodic signal (column 12 lines 9-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kobayashi ‘969 and Miyamori with that of Kobayashi ‘322. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to “make it difficult to accurately copy the position of the front edge or the rear edge of the pit or mark” thus making it “possible to prevent an illegal copy which accurately agrees with the genuine

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optical information recording medium from being produced” (as stated by Kobayashi '322 in column 12 lines 22, 23, and 34-37).

10. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US Patent Number 6,331,969 B1), herein Kobayashi '969, in view of Miyamori et al. (US Patent Number 6,025,946) and further in view of Kobayashi (Japanese Patent Number 11-191218)) herein Kobayashi '218.

Regarding claim 27, Kobayashi '969 discloses an optical disc having pits and lands or marks and spaces having lengths which are represented by integral multiples of a predetermined basic length, successively formed to record main information on said optical disc, wherein a sequence of data based on auxiliary information is modulated by a signal represented by a combination of a sequence of pseudo-random numbers (see Figures 1 and 3, the discussion in the abstract and the discussion in column 4 lines 8-24 regarding the disk identifying code SC1).

Kobayashi '969 fails to disclose that the sequence of data based on auxiliary information is also modulated with a predetermined periodic signal. Miyamori, however, discloses a modulation circuit (element 16 of Figure 5 and Figure 11) that modulates a sequence of data based on auxiliary information with a signal represented by a combination of a sequence of pseudo-random numbers and a predetermined periodic signal (see Figure 11 element 33 and the discussion in column 16 lines 1 to 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the modulating scheme disclosed by

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Miyamori with the teachings of Kobayashi '969. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to reduce the regularity of the data (as suggested by Miyamori in column 16 lines 53-59).

The combination of Kobayashi '969 and Miyamori fail to disclose, while Kobayashi '218 discloses that the reflectance of an information recording surface of said optical disc is locally changed depending on the modulated sequence of data, thereby recording said auxiliary information on said optical disc (see the abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Kobayashi '218 into that of Kobayashi '969 and Miyamori. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to make it difficult to illegally reproduce data without exerting any influence thereon as suggested in the abstract of Kobayashi '218.

Allowable Subject Matter

11. Claims 1, 3 and 5-18 are allowed.

12. The following is an examiner's statement of reasons for allowance:

Regarding claims 1, 3 and 5-13 none of the references of record, alone or in combination, suggest or fairly teach the limitations of independent claims 1 and 13, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

The prior art fails to disclose **a periodic signal generating unit configured to generate said predetermined periodic signal, said periodic signal generating unit including a counter configured to count channel clock pulses output from a phase lock loop circuit, the counter being cleared by a frame clock pulse output from a synchronous detecting circuit, the counter supplying the most significant bit of the counter value as a toggle signal to an exclusive-OR circuit; an auxiliary information modulating unit configured to modulate the sequence of data based on said auxiliary information with a signal represented by a combination of the random number from said pseudo-random number generating unit and the predetermined periodic signal from said periodic signal generating unit; and a modulation signal processing unit configured to modulate said first modulation signal to slightly change the recorded traces of said pits or said marks, based on the modulated sequence of data from said auxiliary information modulating unit.**

Regarding claims 14-18 none of the references of record, alone or in combination, suggest or fairly teach the limitations of independent claims 14 and 18, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

The prior art fails to disclose **generating at least two pseudo-random numbers; counting, with a counter, channel clock pulses output from a phase lock loop circuit, the counting being cleared by a frame clock pulse output from a synchronous detecting circuit, the counting step including supplying the most significant bit of the counter value as a toggle signal to an exclusive-OR circuit; modulating a sequence of data based on auxiliary information with a signal**

represented by a combination of a sequence of said at least two pseudo-random numbers and a predetermined periodic signal; and and either changing recorded traces of said pits or said marks depending on the modulated sequence of data, thereby recording said auxiliary information on said optical disc or locally changing the reflectance of an information recording surface of said optical disc depending on the modulated sequence of data, thereby recording said auxiliary information on said optical disc.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571)270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LaTanya Bibbins/
Examiner, Art Unit 2627

/Thang V. Tran/
Primary Examiner, Art Unit 2627